

the activities described in subsection (e)(4) of this section. The State research priorities identified under this subsection shall be compiled and reviewed by the appropriate regional and area divisions of the Cooperative State Research Service and the Agricultural Research Service to develop coordinated regional research priorities.

(Pub. L. 101-624, title XIV, §1483, Nov. 28, 1990, 104 Stat. 3623; Pub. L. 102-237, title II, §201(e), Dec. 13, 1991, 105 Stat. 1847.)

AMENDMENTS

1991—Subsec. (c). Pub. L. 102-237 inserted “and” after “Animal”.

EFFECTIVE DATE OF 1991 AMENDMENT

Amendment by Pub. L. 102-237 effective as if included in the provision of the Food, Agriculture, Conservation, and Trade Act of 1990, Pub. L. 101-624, to which the amendment relates, see section 1101(b)(1) of Pub. L. 102-237, set out as a note under section 1421 of this title.

§ 5504. Water quality and nutrient management research

(a) Purposes

It is the purpose of this section to establish a coordinated water quality and nutrient management research program at the Department of Agriculture. In carrying out this section, the Secretary shall undertake efforts to—

- (1) reduce the sources of contaminants of surface and ground water resources through the development of farm systems which replace or conserve the use of such contaminants while maintaining farm profitability;
- (2) develop information and technologies needed to formulate integrated farm chemical and plant nutrient and animal waste management strategies which avoid contamination of surface and ground water, especially in areas identified by State and Federal monitoring or regulatory efforts as having current or potential water quality problems; and
- (3) monitor and better evaluate the extent of water contamination caused by farm chemicals, plant nutrients, and animal wastes.

(b) Coordination

In carrying out this section, the Secretary shall ensure that all activities undertaken are coordinated with other programs within the Department of Agriculture, other Federal agencies, and with State governments.

(c) Research

Research projects on water quality funded in whole or in part by the Secretary under this section shall include research to help—

- (1) develop farming systems and practices which can prevent water contamination while maintaining and improving profitability, including—
 - (A) integrated crop management systems;
 - (B) sustainable agricultural practices;
 - (C) best management practices for use of plant nutrients and animal wastes;
 - (D) alternative methods of pest and disease control designed to integrate biological, cultural, host-resistance, and judicious use of pesticides; and

(E) improved methods for the storage, use, and safe disposal of potential contaminants;

(2) improve the understanding of the fate and transport of farm chemicals, plant nutrients, and animal wastes which can contaminate water and cause adverse human or environmental effects;

(3) develop integrated crop production systems which are more productive, use inputs more efficiently, and are more protective of the environment, including research on—

(A) nutrient management and use efficiency;

(B) soil and tissue testing and nutrient availability interactions with specific cropping systems;

(C) plant nutrient needs for nitrogen and elements in intensively managed cropping systems;

(D) enhancement of soil productivity;

(E) varietal and hybrid interactions with plant nutrient requirements and overall crop management;

(F) the relationship of soil microbial activity to nutrient management;

(G) suitability of cover crops in soil protection and nutrient conservation;

(H) the role of crop rotations in intensively managed cropping systems;

(I) legume management for nutrient conservation and environmental protection;

(J) interactions of improved nutrient use efficiency and efficient water use;

(K) nutrient availability interactions with soil physical conditions;

(L) nutrient balance effects on improved nitrogen use efficiency and lowered nitrate carryover in soils; and

(M) the importance of subsoil fertility in improved plant yields and nutrient use efficiency;

(4) monitor and evaluate the extent of water contamination from agricultural production methods;

(5) improve the understanding of the relationships between water use and the availability and quality of water;

(6) improve the accuracy of yield and nutrient advisories;

(7) improve the understanding of the ecological and biological aspects of agricultural production;

(8) demonstrate the results of research conducted with funds provided under this section, undertaken in cooperation with the Extension Service, the Soil Conservation Service, and other entities;

(9) reduce water contamination and improve water quality relating to the production of cut roses and other fresh cut flowers; and

(10) meet other critical water quality research needs, as determined by the Secretary.

(Pub. L. 101-624, title XIV, §1484, Nov. 28, 1990, 104 Stat. 3624.)

SECTION REFERRED TO IN OTHER SECTIONS

This section is referred to in section 5503 of this title.

§ 5505. Repository of agriculture and ground water quality planning information

The Secretary, acting through the Director of the National Agricultural Library, shall estab-